

Relatedness in the Online Learning Environment

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### Abstract

Traditional instructional methods of delivery are waning as online education steadily rises to the forefront as the preferred delivery for students striving to access higher education. While there is a wealth of empirical evidence to support strategies that foster students' autonomy and competence in both the traditional and online learning setting, the availability of varied, research-based relatedness support appropriate for the online learning environment is lacking. Therefore, the purpose of this paper was to review the literature applying Self-Determination Theory to online instructional settings to understand relatedness, its educational impacts on students, and associated support strategies.

*Keywords:* relatedness, self-determination, online, learning, education

### Relatedness in the Online Learning Environment

Educators are finding themselves challenged to adapt instructional delivery to meet the diverse needs of both new generations of learners who are technology savvy and accustomed to interacting in the digital world and non-traditional students who struggle to overcome the digital divide. Traditional instructional methods of delivery are waning as online education steadily rises to the forefront as the preferred delivery for students striving to access higher education. Educators may eventually see the online classroom evolve into the new traditional classroom (Zhang, Zhao, Zhou, & Nunamaker, 2004).

Several potential pitfalls exist for online learners. First, online students must be self-motivated, active learners who advocate for their success (Daniels & Moore, 2000) and who have strong organizational skills (Oh & Lim, 2005). In addition, online learners often report a lack of a sense of belonging and community during the online learning experience that prevents the development of shared feelings and emotions between learners and instructors, and some researchers have found that these variables are some of the most crucial in influencing learner satisfaction and learner transfer effectiveness (Sergiovanni, 1994).

Online learning enables traditionally underrepresented populations of students to access higher education and adds a level of convenience that appeals to adult learners who are balancing careers, families, and pursuing graduate degrees. However, this expansion and convenience has met with harsh criticisms from both those who are skeptical of the effectiveness of online learning and those who are currently in the field striving to overcome the barriers that exist in the distance environment. Many skeptics argue that delivering content online decreases rigor and subsequently student learning outcomes (Allen & Seaman, 2016). Online practitioners express difficulties relating to their students, building personal relationships, and encouraging the

creation of a community of learners within the virtual classroom that could increase student engagement and success. Both of these issues relate to Deci and Ryan's (2000) work in Self-determination theory (SDT). "Self-determination theory (SDT; Deci and Ryan, 2000; Niemiec et al., 2010; Ryan and Deci, 2000b) is a macro-theory of human motivation, emotion, and development that takes interest in factors that either facilitate or forestall the assimilative and growth-oriented processes in people" (Niemiec & Ryan, 2009, p. 134). It is an approach that uses traditional empirical methods alongside an organismic meta-theory to highlight the importance of humans' inner resources for personality development and behavioral self-regulation (Ryan & Deci, 2000b). Accordingly, its strength is its ability to investigate the inherent growth tendencies and innate psychological needs that act as the foundation for people's self-motivation and personality integration, as well as for the conditions that foster and thwart those positive processes (Ryan & Deci, 2000b).

### **Self-Determination Theory in Educational Settings**

Prior research indicates that self-determination theory can be applied effectively to educational issues such as motivation and school adjustment and can predict a variety of student outcomes including performance, persistence, and course satisfaction (Deci & Ryan, 1985, for a review); therefore, SDT has the potential to provide a clear theoretical lens for examining these issues and investigating possible solutions and recommendations for practice. SDT postulates that satisfaction of three basic psychological needs of autonomy, competence, and relatedness, seen as universal necessities, involves the central processes through which intrinsic motivation and integrative tendencies are facilitated, which results in feelings of well-being; conversely, thwarting of those needs results in alienation and ill-being (Deci & Vansteenkiste, 2004).

Competence concerns people's inherent desire to be effective in performing in and

navigating through their environments; autonomy concerns people's urge to be agents in their lives and to experience volition and act in accordance with their integrated sense of self; and relatedness concerns people's inclination to interact with and be connected to other people (Deci & Vansteenkiste, 2004). SDT advances that people can be engaged or, alternatively, passive and alienated depending on the social conditions in which they function, and research into these tenets has led to the concept that basic needs are met, people experience enhanced self-motivation and mental health (Ryan & Deci, 2000b). The degree to which a student expresses intrinsic motivation, the most self-determined type of motivation, depends on whether his/her innate needs of autonomy, competence and relatedness are met by factors within the learning environment (Ryan & Deci, 2000a).

Self-determination theory has been used extensively in research in educational settings to explore topics like student motivation (Deci & Ryan, 2008). However, much of the research to date has focused on autonomy and competence needs. For example, Chirkov and Ryan (2001) found that students' perceptions of teacher and parent autonomy support were associated with academic motivation. Similarly, Reeve et al. (2002) discovered that the provision of autonomy-supportive rationale explaining the importance of the assigned activity increased students' internalization and effort to learn. Niemiec and Ryan (2009) suggested that in order to support students' competence, teachers must provide process-oriented feedback that downplays evaluation to guide them to task mastery and promote feelings of efficacy and success.

Additionally, a great deal of research using SDT as a theoretical framework has concentrated on the traditional, face-to-face (f2f) setting. For example, Deci and Ryan (2008) found that in f2f settings, autonomy support led to more self-determined motivation among learners and that external demands, like deadlines, directives, and even rewards, undermined

motivation. Reeve, et. al. (2008) found choice to be supportive of students' autonomy needs, and Katz and Assor (2007) argued that the perception of choice rather than the actual choices was the critical factor in terms of self-determination. Correspondingly, support for learners' competence has been found to facilitate motivation (Schunk & Zimmerman, 2006), and competence-supportive structures can lead to self-determined types of motivation (Jang, Reeve, & Deci, 2010) while unsupportive structures, like course requirements that are perceived as too easy or too overwhelming, can undermine student motivation (Reeve, 2009; Van Etten, Pressley, McInerney, & Liem, 2008).

However, although relatedness is included in the basic needs outlined in SDT, less research has focused directly on relatedness and even less has focused directly on strategies to foster a sense of relatedness in educational settings, specifically online settings. Although some publications make mention of all three basic needs, including Niemiec and Ryan's (2009) article highlighting the application of SDT in educational practice and Hartnett's (2015) study on factors undermining motivation, most of the discussion is typically focused on autonomy and competence, leaving relatedness somewhat disconnected from the overall emphasis. Researchers and practitioners alike have realized the importance of relatedness and the impact of the lack of relatedness in online learning settings; however, while the need for relatedness seems to have been identified, concrete strategies and recommendations for practitioners is lacking, which is interesting as autonomous motivation, a highly researched concept, is most likely to flourish in environments where people feel a strong sense of belonging and relatedness to others (Deci & Ryan, 2008).

In addition, another reason behind educators' lack of familiarity with relatedness support strategies may be that, although many studies essentially investigate the same idea, there is a

wide range of terminology used to capture the essence of relatedness. Terms like belonging, community, learner interaction, relationships, and others all describe the overarching need for relatedness, but because terminologies differ, consumers of this type of research can struggle to locate quality resources and see the connection among all these differing terms with SDT and the need for relatedness.

So, while there is a wealth of empirical evidence to support strategies that foster students' autonomy and competence in both the traditional and online learning setting, the availability of varied, research-based relatedness support appropriate for the online learning environment is lacking. Therefore, the purpose of this paper was to review the literature applying Self-Determination Theory to online educational environments to understand relatedness, its impacts on students' affective and cognitive learning outcomes, and strategies to support relatedness in the online graduate level setting. Evaluating relevant literature can help online faculty and instructional designers understand the role of relatedness and identify effective strategies for meeting online students' relatedness needs.

### **Relatedness in the Online Learning Environment**

As Bennett and Lockyer (2004) point out, although many of the same principles of good teacher apply to both the traditional, face-to-face (f2f) settings and online settings, there is an added layer of complexity involved in the online realm. As educators today are under immense pressure to uphold rigor, increase retention, and improve learning outcomes, the value of relatedness can easily be overlooked, particularly in an online setting. Self-determination theory highlights the importance of the social context of learning and its impact on motivation, which allows researchers to examine the ways in which contextual factors like instructor feedback or social peer interactions can enhance or weaken online learners' motivation (Chen & Jang, 2010).

Furthermore, because there is a social nature to learning, students must be provided opportunities to co-create knowledge (McConnell, 2006) and build relationships that support them throughout the learning process.

In addition, while online education certainly exists at lower levels, higher education has seen perhaps the most growth in terms of online student populations, and while k-12 education seems to still be “traditional” in nature, more and more colleges and universities are making the change to wholly online formats. Entering higher education represents a major transition in students’ lives where they begin to navigate a multitude of life decisions, so understanding students’ sources of social support and factors that can predict their satisfaction, performance, and well-being is valuable for all those involved in working with these students. For example, previous research has found that college students’ positive relationships with others was associated with a lower risk of depressive symptoms (Leow, Lee, and Lynch, 2016) and that social connectedness was associated with improving students’ psychological well-being (Lynch, 2013).

Beyond surface level interactions, students must become personally invested in the content and context, thereby increasing the likelihood of persistence in the course, successful learning outcomes, and improved feelings of satisfaction. Although much of the prior research has focused on students’ need for autonomy, some researchers have chosen to broaden their focus to include the examination of all three of the SDT identified basic needs, and others have even concentrated on relatedness alone to provide a clearer picture of just what relatedness “looks like” in the online setting. For example, some research has found that feelings of belonging and connection via interaction in online learning contexts have been shown to have positive motivational effects (Xie, et al., 2006), and others have emphasized the importance of



providing students with opportunities to build personal relationships and a sense of belonging within a learning community (Ravai, 2007). There is also evidence to suggest that when educators adapt their online instructional strategies and design to enhance a sense of relatedness, positive impacts on student satisfaction occur and that the formation of online learning communities leads to enhanced student outcomes and satisfaction (Palloff and Pratt, 2005). For example, Thomas, Herbert, & Teras (2014) explained that first year students from non-traditional backgrounds reported that greater engagement and collaboration with peers fostered a sense of camaraderie that combatted some of the isolation they felt within the online learning. Conversely, the absence of relatedness can result in decreased persistence and reinforcement of feelings of disconnectedness (Thomas, Herbert, & Teras, 2014).

Hartnett's (2015) study examining undermining influences on pre-service teachers' motivation in an internet-based course is one that offers a somewhat more extensive picture of the intertwined role of autonomy, competence, and relatedness than other studies that include discussions of all three needs. She found that participants' whose relationship needs were not met described "communication issues and disagreements" with their peers and "limited interaction with the wider class" and that those issues contributed to feelings of isolation and disconnection (Hartnett, 2015, p. 93). Participants were assigned a collaborative small-group activity that offered little opportunity for students to interact in the wider class context, consequently leaving students to be reliant on only their small groups to meet their relatedness needs, which meant that any communication issues within groups resulted in undermined relatedness (Hartnett, 2015). These findings correspond with Brophy's (2010) argument that collaborative activities will only work in contexts in which a community of learners has already been established. Put simply, collaborative activities to support relatedness might only be

successful if a sense of belonging has already been established. So, the question becomes, how do online faculty and course designers build a solid foundation for relatedness from the very beginning of a course?

### **Strategies to Support Relatedness**

Thomas, Herbert, and Teras (2014) conducted a qualitative study to investigate what strategies support learning for first year students from non-traditional backgrounds in the online educational setting. Through their interviews and focus groups, they found that a “sense of belonging” was a prominent theme and was described by both students and faculty as a desirable aspect of the online setting (p. 72). Participants in this study revealed several strategies that promoted a “sense of belonging” and the formation of a community of learners, including the use of ice breakers and low-stakes assessments, embedding collaboration into course activities, creating forums or student-only spaces, utilizing virtual, synchronous classrooms, increasing teacher presence, and allowing students to choose their own level of engagement. Similarly, Rovai (2001) recommended two types of interactions to build an online community of learners: task-driven interactions and socio-emotional interactions that facilitate well-being and the creation of friendships. Liu, Magkuka, Bonk, and Lee (2007) argued that the balance of learning-based and socio-emotional interactions is important.

In their study, Chen and Jang (2010) tested a model of SDT to examine the motivation of 267 participants seeking special education certificates through two online programs. Their findings align with prior research and show that employing strategies that support autonomy, competence, and relatedness have a positive effect on online students’ *perceived* autonomy, competence, and relatedness, and that need satisfaction in turn positively affects those students’ self-determination. In other words, strategies that support the basic needs increase students’

perceptions of having those needs met within their learning environments. In regard to relatedness specifically, the authors suggest that previous literature has shown that designing collaborative learning activities to foster peer interactions can be an effective support strategy.

Additionally, their findings suggest that while enhancing students' perceptions of relatedness makes contextual support effective and meaningful to students, "haphazard and aimless supports" that do not address students' basic needs are likely to lead to adverse outcomes (p. 750). Instead, they suggest that online instructors work to understand their students' needs and to adopt appropriate support strategies such as creating an "open, interactive, and learner-centered atmosphere for students to freely express their feelings, thoughts, and concerns" (p. 750). Faircloth (2009) suggests that teachers and students engaging through the sharing of ideas is one strategy to support students' sense of belonging, and interpersonal relationships, a positive sense of self, and school satisfaction can actually develop from the within class engagement when students and teachers work together to speak their minds and reveal their identities and opinions (Faust, Ennis, & Hodge, 2014).

In addition, the Chen and Jang (2010) remark that their findings suggest that contextual support and need satisfaction, including relatedness needs, had a salient influence on students' learning consequences. Although this study included discussion of the three basic needs overall and gave little focus to relatedness in isolation, the researchers do provide practical strategies for practitioners in the field and offer support for the applicability of SDT in online learning settings. Furthermore, the authors discussion backs the major tenet of SDT that "human motivation is a complicated, multidimensional inner process" (p. 750), which leads to another potential reason for the gap in literature focusing solely on relatedness—relatedness is one of three basic needs and should not/cannot be studied in a vacuum.

Although supporting a sense of relatedness along with the other basic needs can have positive impacts, educators must remain flexible and design instruction that allows students to choose their own level of interaction as each student's need for relatedness differs. Some students are more self-sufficient and have their need for relatedness met by simply knowing their instructor and classmates are there if interaction or assistance is needed while other students need frequent interaction with their instructor and/or peers (Thomas, Herbert, & Teras, 2014). This idea brings focus to the unique backgrounds and perspectives that affect each student's approach to learning and reveals the need to explore the factors that might affect students' foundation for their relatedness needs. Literature with a focus on early experiences with relatedness need satisfaction, such as research conducted with young participants in traditional classroom settings might shed light on how older students in online settings approach their learning. While online learning is prevalent and is certainly available to young, even elementary-aged students, the vast majority of current research that applies SDT to online settings is conducted at the higher education level with adult learners. Reviewing studies that provide a look into how relatedness affects younger students' learning and school adjustment may offer a different lens through which to examine relatedness in the online, adult learning environment.

### **Foundational Factors and Implications for Online Strategies**

In exploring the idea of relatedness, some literature delves into the very foundation of students' feelings of connectedness to others, which could shed light on the relatedness perspectives online learners bring with them into the virtual classroom. For example, Ryan, Stiller, and Lynch (1994) studied early adolescents, and those findings suggest that relationships that produce feelings of security and relatedness promote an individual's general sense of self-worth and identity integration, providing him/her with a secure base from which to extend

him/herself into the world and may be associated with a greater sense of competence, control, and positive coping in school. These researchers conducted a study with middle school-aged participants and found that both teacher and parent relationships contributed to these students' school functioning; students who felt more secure with, and more able to, utilize these adults also reported more positive attitudes and motivation in school and that the students who felt more secure with and supported by their parents were more apt to experience better relationships with their teachers (p. 244). Furthermore, students in this study "who reported emulating their parents and teachers showed more positive school adjustment and motivation" (p. 244).

It seems that supportive relationships with teachers can play a vital role in facilitating positive student outcomes. Students who are already secure in their relationships with their parents are more apt to view teachers in a positive manner, which can lead to greater relational supports, and students who do not feel they have secure, supportive relationships or do not actively seek those out when they have emotional or school concerns were more likely, in this study, to show poorer school adjustment, lower self-esteem, and lower identity integration (Ryan, Stiller, and Lynch, 1994). So, while parental support and connectedness is certainly important, in focusing on education, student-teacher relationships have a critical value.

Some research that has linked feelings of belonging in the school setting to positive academic outcomes like engagement and self-efficacy, and although few studies have directly examined perceived relatedness as a predictor of school success, all of them have shown positive effects on students, such as feeling more confident, working harder, performing better in school, and coping more adaptively (Anderman, 1999; Anderman & Anderman, 1999; Connell & Wellborn, 1991; Lynch & Cicchetti, 1992; Ryan et al., 1994; Skinner & Snyder, 1999). Furrer's and Skinner's (2003) work is one such study that is narrowly focused on relatedness. These

researchers point out that, despite the varying labels used in the literature, the core notion of students' sense of self in relationships is that a "history of interactions with specific social partners leads children to construct generalized expectations about the nature of the self in relationships," and that children rely on these beliefs when engaging in the world around them (p. 148). Therefore, a sense of *relatedness* can function as a motivational resource for children who face challenges or barriers so that those who have experience trust in others respond with more "vigor, flexibility, and constructive actions" (p. 148). Their study's sample was part of a longitudinal project examining children's motivation and coping in the academic domain and included children in third through sixth grades from a suburban-rural school comprised of primarily middle and working-class families. They found that children who reported a higher sense of relatedness showed greater emotional and behavioral engagement in school. In addition, the researchers found evidence, similar to other researchers like Ryan, Stiller, and Lynch (1994), to support the idea that a sense of relatedness to key social partners promotes students' motivation.

Of particular interest to the realm of adult learning, this study found that "relatedness to teachers was a more salient predictor of engagement for older, compared to younger, children" (p. 158). In narrowing the focus to that slightly older age group, Faust, Ennis, and Hodge (2014) examined the relationship between students' sense of belonging in school and positive outcomes by comparing changes in sixth grade students' perceptions related to teacher and peer support, overall satisfaction, and academic competence over the course of a school year. Their results indicate a strong need for positive student-teacher relationships to increase students' sense of belonging and satisfaction as the data collected showed a decrease in those elements when the student-teacher relationship decreased. While these findings cannot be directly generalized to

adult learners, Furrer and Skinner (2003) do suggest that relatedness may be a psychological resource that children can take with them into the future and into new situations, which could include online learning. They also argue that relatedness may act as a buffer against negative emotions like boredom, anxiety, and frustration, which has powerful implication for students at all levels and in all settings.

Interestingly, Furrer and Skinner (2003) also found that children high in relatedness not only started out the school year with increased engagement, but also showed more improvement over time than did students low in relatedness. Also, children whose relatedness needs were met were more likely to have greater opportunities for actual learning and school success, and the combination of engagement and performance elicited more support from teachers, parents, and peers, confirming those students' feelings of belonging. And although relatedness with all these social partners was found to be important, emotional engagement was found to be most heavily dependent on relatedness with teachers, which leads to powerful implications for educators in both traditional and online settings. First, all those involved in the education process should work to build the quality of students' relationships and make fostering a sense of belonging a priority. In addition, teachers should exhibit characteristics such as warmth, caring, sensitivity, dedication of time and attention, and emotional availability to promote a sense of connectedness with their students as relatedness plays an integral role in students' motivational development (Furrer & Skinner, 2003).

Niemiec and Ryan (2009) also effectively applied SDT to the traditional educational setting and provided several useful strategies for practitioners who wish to support relatedness. They contend that classroom practices that support students' relatedness are associated with both greater intrinsic motivation and autonomous types of extrinsic motivation. They argue that

relatedness in the educational setting is strongly connected to the student feeling that the teacher genuinely likes, respects, and values him/her, and students who report such relatedness are more likely to exhibit integrated regulation in the learning process while those who feel disconnected or rejected by their teachers are more likely to move away from internalization and respond only to external contingencies; therefore, even in the online setting, instructors should demonstrate caring, warmth, and respect for their students (Niemic & Ryan, 2009). Furthermore, the values and practices in a students' environment are more likely to be adopted as their own and experienced as self-determined when conveyed by adults with whom they feel they have a positive relationship (Ryan & Stiller, 1991; Ryan, Stiller, & Lynch, 1994).

### **Limitations**

Striving to conduct a thorough literature review on the construct of relatedness in the online learning environment presents some challenges. Foremost is that although many studies essentially examine the definition of relatedness according to SDT, there is a wide range of terminology used to capture the essence of that basic need, such as belonging, community, interaction, relationships, affiliation, and others. While these terms all describe the overarching idea of relatedness, the terminologies differ, so consumers of this type of research can struggle to locate relevant resources and see the connection across differing terms.

Another challenge of this review was the limited literature focusing graduate level online learning. Although there is a wealth of research on SDT and relatedness, much of the focus of the literature has examined children and adolescents in the face-to-face setting. Research is budding in terms of examining higher education students and the online environment, but more focused research on the different levels of higher education, specifically the graduate online setting, would be useful for practitioners.



Finally, one of the major issues with conducting any exploratory literature review is the sheer volume of potential resources. The purpose of this paper was to review the literature applying Self-Determination Theory to online educational environments to understand relatedness, its impacts on students' affective and cognitive learning outcomes, and strategies to support relatedness in the online graduate level setting. While this review did meet its purpose in terms of exploring relevant research and shedding light on the literature available for practitioners' use, a more focused exploration based on research questions connected to a correlational or experimental study would have further refined the review's findings.

### **Implications**

The implications of a review of this nature are far reaching. As online education expands, practitioners must understand the unique needs of their learners and must be able to adapt instruction to increase the potential for success. Feelings of belonging have been shown to have a positive motivational effect on learners (Xie, et al., 2006) while the absence of relatedness can result in decreased persistence (Thomas, Herbert, & Teras, 2014). When online course designers and instructors adapt instruction to support relatedness, positive impacts on student learning outcomes occur (Thomas, Herbert, & Teras, 2014). Online learning has proven to be a growing force in the educational world, and practitioners must keep abreast of the current research that can assist them in creating meaningful and successful learning experiences with their students. By becoming familiar with and understanding the current research, these educators can better support relatedness in their online settings and better serve their students.

### **Conclusion**

The purpose of this paper was to review the literature applying Self-Determination Theory to online educational settings to understand relatedness, its impacts on students, and

associated support strategies. After reviewing the literature, several main themes came to light. First, no matter the label that is used to describe it, the idea of relatedness and connectedness has been examined in prior research and does show strong potential for future investigations into the factors that affect students' school experience and learning outcomes. Secondly, although self-determination theory, specifically the three basic needs of autonomy, competence, and relatedness, has been extensively studied in the realm of education, few studies provide a thick focus on relatedness, instead focusing most research questions, data analysis, and discussion on autonomy and competence needs. Few studies give full focus to relatedness, making the need for more focused research on this area apparent. In addition, though online education is expanding past the university level and becoming more prevalent in k-12 grades, the majority of prominent studies examining relatedness focuses in online learning settings were conducted in higher education settings, which opens up another potential avenue for future research.

Also, in striving for a holistic understanding of relatedness in the online setting, the potential impacts on students, and the strategies that can be used to support students' sense of belonging, this review also attempted to branch out to understand possible foundational factors associated with sense of belonging in younger children that could possibly relate to the way adult students approach online learning.

While it would be incredibly challenging to review every aspect of relatedness in the online learning environment, conducting a review such as this can give researchers, online faculty, and online course designers a better understanding of the role of relatedness to better meet online students' relatedness needs.

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